

*Outside Concerns, Educational
Institutions and Publishers - 1928-1930*

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~~AND OUTSIDE CONCERNS~~

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Personnel Research Federation

INCORPORATED

*For the Furtherance of Research Activities Pertaining to Personnel in Industry,
Commerce, Education, Government, and Other Fields wherever such Researches
are Conducted in the Spirit and with the Methods of Science*

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White Motor Company

29 West Thirty-Ninth Street, New York

October 8, 1928

10/10
Mr. G. A. Pennock
Superintendent of Inspection
Hawthorne Works
Western Electric Company
Chicago, Illinois

Dear Mr. Pennock:

After discussing the situation with Mr. Stokes,
the Chairman of our Program Committee, we have decided to
accept Professor Mayo's suggestion in part: We shall set aside
practically the whole of Saturday forenoon, December 1st, for
the presentation and discussion of your paper. First, there
will be a curtain raiser, which will probably be a twenty minute
description of psychological investigations in a chocolate factory
in Switzerland; then, you have whatever time you deem necessary
for presentation of your report. I suggest that you aim at
three-quarters of an hour to one hour. We shall want to allow
Professor Mayo ample time for opening the formal discussion and
I am sure there will be then many questions and comments from
other discussers and from the floor. I personally am looking
forward to your report as the outstanding feature of the meeting.

Sincerely yours,

W. V. Bingham
Director

WVB/ks

The Commonwealth of Massachusetts
Department of Mental Diseases

Boston Psychopathic Hospital
74 Fenwood Road

Boston, Mass.
December 11, 1929.

Mr. M.L. Putnam,
Western Electric Co.,
Chicago, Ill.

Dear Mr. Putnam:

It was very stimulating to be present at the meeting of the Personnel Research Federation when the work of the Western Electric Company at Hawthorne was presented. I wish to thank you for the separate copy of the test studies report which you have been good enough to forward to me through Professor Mayo.

Yours truly,

C. Macfie Campbell, M.D.

CMC:HPS

DP

THE
NATIONAL ASSOCIATION OF FOREMEN

U. B. Building
Dayton, Ohio

1930

Mr. M. L. Putnam,
Personnel Department,
Western Electric Co.,
Hawthorne, Illinois.

Dear Mr. Putnam:

I was extremely interested in reading a copy of the paper which you gave at the Annual Fall Conference of the Personnel Research Federation, discussing the improvement of employee relations on the basis of data obtained from employees. Being in the work I am, that of foremanship development, I was interested in the amount of information which you undoubtedly uncovered which was used to distinct advantage in improving your foremanship work and attitude. I have for a great many years felt that the foreman is at the point of all industrial relations. That is, it is what he does and says and how he does it that makes or breaks an industrial relations program. I think you have made a splendid contribution to the improvement of foremanship in industry.

I am hoping to attend the National Management Congress in Chicago on March 3, 4, and 5, and I am planning to visit your plant sometime during these three days. I note there is a special factory trip on Wednesday, afternoon, March 5, but I suppose that this is a conducted tour and time would not be available to talk with you about the work you are doing with the foremen. When would it be convenient for me to talk to you during those three days?

Under separate cover I am sending you a copy of the February issue of our magazine, The FOREMAN, which is now being sent to about 75 foremen of the Western Electric Company at Hawthorne. These men are members of a Foremen's Club which has recently been organized and no doubt with which you are quite familiar.

Looking forward to seeing you personally in March,
I am

Yours very truly,

E. H. TINGLEY, Secretary.

EHT:T

THE OHIO STATE UNIVERSITY
George W. Rightmire, President

Columbus

February 10, 1930

Mr. M. L. Putnam
The Western Electric Company
Hawthorne Station
Chicago, Illinois

Dear Mr. Putnam:

I have read with considerable interest your article in the Personnel Journal for February. It has occurred to me while reading it that your technique might be transferred over to the educational field, and for this reason I wonder if you would answer two or three questions for me.

1. How did your interviewers set up rapport with the workers in their interview? Did you develop any specifications for this, and if you did, may I have a copy of it?

2. I take it that no effort was made to report to supervisors the particular deficiencies in their divisions which were discussed by the interviewers.

3. About how long were the interviews?

I feel a sort of kinship to your program since my interest in personnel work began when I worked at West Street while the Bell Telephone Laboratories were still the Engineering Department of the Western Electric Company. I suppose it is because of havin' worked for John Mills that I am now professionally involved in personnel problems.

Faithfully yours,

(signed) W. H. Cowley.

WHC:REM

DP

THE PENNSYLVANIA STATE COLLEGE
State College, Pa.

February 20, 1930

Mr. M. L. Putnam
Hawthorne Plant
Western Electric Company
Chicago, Illinois

Dear Sir:

I read with a great deal of interest your paper entitled, "Improving Employee Relations - A plan which uses data obtained from employees", which appeared in the Personnel Journal for February 1930. I also read the article by Mr. Pennock, and the one by Dr. Mayo.

At the present time the Pennsylvania State College through its Department of Engineering Extension is conducting conferences with supervisors in industries in this state. Your material appears to be of great value and possibly can be used to some extent to improve the quality of our work.

Would it be possible to secure a standard set of interview questions which you had first worked out for interviewers? If so, we should appreciate receiving such a set, for we are working out, along several lines, a set of questions that we may use and your past experiences would be invaluable to us in helping us to formulate our questions. We should also appreciate anything you might have to say concerning our venturing into such a program.

We have conducted some 80 conferences in industrial plants in Pennsylvania, and continue to receive requests for more of these supervisor training courses. We are certain that your new ideas are applicable to our work, but we want to go very slowly in instituting this type of training.

We shall probably pick out one of the plants where we have done considerable work in the past with our conference courses, and start by taking a small department or so, with the management's consent. If the proposition works out satisfactorily, we can of course, duplicate the work in some of the other plants.

Very truly yours,

(Signed) J. O. Keller, Head
Engineering Extension Department.

HS

DP

DR. A. W. KORNHAUSER: I was extremely glad for the opportunity to come down here tonight to be the tail to Mr. Putnam's kite, because I have been very much impressed both with the work, and the spirit back of this work, at the Western Electric Company. The work as a whole seems to me to be highly important aside from most of the specific results. I feel pretty critical and skeptical, as some of you do, about the specific results, but still I do feel the work is extremely valuable, a sort of trail blazing in this whole field.

I do not think the matter of originality or priority is highly important; it is perhaps the least important matter to pay attention to. However it is hardly fair, I think, to loop upon this activity as quite novel; certainly we have had a great deal of this sort of work in slightly different forms. But perhaps its very scale of operation is important; I do not wish by any means to belittle the work.

With regard to the test room study, I want to say just a word and then devote my remarks principally to the general interviewing program. With regard to the test room study, I think there is less to be said on the score either of novelty or significance. I hope you will understand I do not mean to be merely fault finding. I should like the spirit of my critical remarks to be this: Over these coming years, I feel perfectly certain all of us are going to be giving a good deal of thought to this kind of work, and many of us will be actively engaged in it; accordingly it is wise for us to criticize one another and talk over the problems as frankly as we can from the outset.

With regard to the test-room study of output over a long period of time, as affected by rest periods and other changes that were introduced, it seems to me that the work, largely by reason of the fact that it did go ahead without controls, has been rather fruitless. It seems to me, for example, that it is much less fruitful than much of the carefully controlled work conducted in England by the Industrial Fatigue Research Board, or in Germany in the field of industrial psychology. I think it would be a great mistake to adopt the theory that we are going to do without controls simply because the illumination study broke down by reason of defective controls. We do want controls in these human experiments. Such illustrative cases as that of our inability to stop the heart in order to study the lungs, is aside from the point; you can study what happens to the heart or lungs when you stimulate or inhibit the heart by special means; you can, that is, study those relationships by varying one factor at a time. That is precisely what we have to do in this human behavior field, the same as in any other field of science. Whatever progress psychology has made has been by reason, I think, of its insistence on that point, and I should hate to see industrial psychology try to steer a course that seems to me to go contrary to one of the most important general lessons we have learned from our work in laboratory and general psychology. However, I am not arguing simply from laboratory psychology. A great deal of work in industrial psychology has been done, partly in this country but much more actively and with more fruitful results in England and Germany, which has amply justified its

procedure and its use of controlled experimental methods.

Before leaving the test-room study, I am tempted to mention that it does not seem to me the interpretations drawn from this work are too clear. The conclusions reached, primarily that supervision is the important thing, may be true enough, but the evidence is not convincing. The investigations have not, I think, clearly eliminated the effect of wages, for example, and changes in simply having these people separated from the noise and confusing work-shop conditions, and a great many other variables of that sort.

I say all of these things, however, with my fingers crossed. The more I look at this picture, the less confident I am that I know what I am talking about. I have talked with Mr. Putnam before, thought I had everything straight, and then reached home and wondered about a dozen new questions. Mr. Putnam, however, tells me that is their condition, too.

I want to talk principally about the general study which grew out of the test-room work. I think it is extraordinarily important that this new emphasis should be placed upon morale, or employees' attitudes and feelings, or employee satisfaction, and the relationship of those attitudes to output, turnover, and indirect costs. The practical importance of the work, I suppose is sufficiently obvious to all of us, so that there is no need of emphasizing it. There is, however, the human side of this whole type of work, aside from anything that may reflect itself in increased corporate profits -- and I have the impression that many of the people in the Western Electric work are sincerely affected by those considerations rather than simply by what it may mean in terms of increased profits -- and I think that is unusual and worth noting. I doubt if the work would have gone ahead otherwise, and if we are to get very far ahead on our social problems, perhaps it is essential that industries do take something of that attitude.

It seems we can divide into four points the aims or objectives that this work emphasizes - aims that personal management in general is trying to accomplish. I should like to mention those points and then raise the question of how well this procedure has succeeded in getting at those objectives and what alternatives may be available.

The first is this: giving the employee the feeling the management is interested in him and that he does count; that he is significant.

The second end served by the interviewing procedure is that it gives the workers opportunity for individual expression, this emotional relief of getting things off their chests.

Third (and perhaps I am wrong but I believe this is the point most emphasized by Mr. Putnam and his group), is the aim of trying to increase morale by getting more information about working conditions, supervising methods, and the like as a basis for improved methods of dealing with people. In fact, Mr. Putnam, in describing the study, has referred to it as "a plan for improving employee relations on the basis of data obtained from employees."

And, fourth, the procedure does supply concrete and vital material for supervisory training. It does give the foremen some basic understanding with which they can more effectively deal with their people.

How well are these four objectives of personnel management accomplished? I judge you will agree these are vitally important things for personnel work to do. Surely the generally favorable response of employees to this plan points to some really beneficial results. However, one wonders how representative of the whole employe group those favorable comments are. There is in the whole study a rather bothersome absence of statistical statements that is annoying to those of us who are accustomed to wanting things in statistical terms. Perhaps most of you do not feel that annoyance but I should like to know, for example, how many employees feel quite differently, quite negatively inclined. They probably have not, at any time, expressed themselves as negatively inclined, but that of course, does not answer the question. Likewise with regard to the supervisory force being so favorable and saying that they see better effects on the morale of the workers, one would like to know how far this is due to the fact that the whole plan was pretty carefully sold to the supervisors, and also how far it is the effect of the supervisory training, which may be the one thing that is influential there.

But more specifically as to these four objectives I have mentioned first is the matter of personal interest and recognition. Surely there has been some accomplishment in that direction, and no criticism of a negative sort I make here intends to go the whole way. I do not want, for a moment, to put myself in the position of these people Mr. Putnam described who start off with extremely exaggerated statements that they must modify again and again. It would seem to me doubtful, however, whether the employe can get as great a feeling of personal interest in him and recognition of him as he might, where the whole system is so essentially impersonal. It's very anonymity seems to interfere with the employe's feeling that the management is personally doing anything about him. These are people he does not know who come to interview him once a year, perhaps, whom he never sees again, and whose relations with his immediate bosses and management he is assured is of such a nature that he and his opinions will never be thought of personally. The whole thing seems to me to rob the man of much of the effectiveness it might have in the direction of employe recognition, except as the group as a whole is recognized; that is, that the workers are considered of so much importance that the management consults them. One can very well raise the question there, it seems to me, whether it is as pervasive and effective an employe recognition plan as one where the workers are always at liberty to express themselves and where they feel perhaps more forcefully that their opinions are considered worth something. That is, it would seem to me if we are trying to get this personal feeling of recognition, any system needs to be individual in the sense that the individual expresses himself and knows his opinions as an individual are being considered. The plan, moreover, needs to be continuing rather than happening once a year with nothing else for another year or so; and it needs to have reference to the worker's usual

management connections, his every day contacts rather than a detached arrangement. There has been some of that, of course, in the making out and use of the employe qualification cards in many concerns where effective recognition has been aimed at, and many of you, doubtless, have done comparable things.

The second aim was providing for individual expression -- and there, again, I think there is doubtless a great deal of the beneficial effect of the sort Mr. Putnam mentions, but again there is a set of questions worth raising. In so far as we are dealing with people with rather persistent and devastating worries, with semi-abnormal conditions (and every plant has a number of workers of that sort), I doubt whether these interviewers who are not psychiatrists, are able to do very much in drawing out those deeper feelings; in fact, they do not seem to try to do this. With regard to the general run of employes, there is, of course, something accomplished in getting things off their chests. I am not so sure whether the accomplishment lasts more than a day or so, or, at the most a few weeks but perhaps it does. I doubt that getting rid of some little point that has been bothering him has any long, beneficial effect; and with many of the things that bother him, I doubt whether simply talking of them helps any at all. What is needed is an actual change in conditions: If it is a matter of my being dissatisfied with promotional possibilities, the fact I have not been promoted, or with my wage or my working conditions, the arrangement of my work or the way my tools are kept, how good my tools are, the kind of a chair I have to sit on, merely getting those things off my mind, I fancy, is not going to help me very much.

That brings us to the third point, which I think is the most important: this matter of getting information about the job and desired changes, and it seems to me there the great question first is: How frank and complete is the information gotten? And, second: What is done about it? As to the frankness and completeness, I suppose it is simply a matter of guessing. The very fact, though, that there are almost no general negative reactions to this whole interviewing plan makes me a little suspicious. I should expect some workers to have that kind of reaction and I should suspect that since it does not appear there is not as much frankness as there might be.

In looking over the interview reports and the classifications of items mentioned, I see nothing that would include any mention of trade unionism or employe representation, and I just cannot think there are no workers interviewed who have that very much on their minds; I do see reason why they would not talk about it even with their anonymity guaranteed. I see nothing that would take care of the matter of the employe suggestion system, which I have heard is a suggestion system in which the workers making the suggestion receive no monetary reward, at least, no direct reward. I should think there would be some feeling about that. But then, I should expect feelings about a great many things that do not appear in these statements.

A man will mention as the most important elements the ones most on the surface of his thinking, the most verbalized in his behavior, the things people talk about in the shop, but not necessarily the things that are actual-

ly the most important; in fact, the most important are apt to be the least verbalized.

And that raises another question: Why not use questionnaires? I should like to see questionnaires used, not as an alternative to interviews, but as an addition. Mr. Putnam seems to talk (although on other occasions that I have talked with him that has not been true) as though there is an antagonism there. I think you can ask questions about a job, personnel matters, procedures, and the like, and also get the employe to talk freely about anything else on his mind, and I should think simply getting a yes-no answer might be pretty valuable on many points. In fact, that is what J. David Houser has done in his investigations; he did that sort of interviewing for Commonwealth Edison, as well as other companies here, and has done some of the same work in the East. I see no reason why the two procedures should not be combined.

There is also the whole question - perhaps far more important - of whether the information can be better gotten by these methods than by an employe representation plan of some sort. I do not know the answer, of course, but I think there is a real question there that needs to be threshed over.

I should like also to raise this question, and perhaps it is the most important of all: Will the Company be able to make good on the points criticized by the employes? What is going to happen over a period of two or three years? These employes are saying a lot of things that are bothering them, a lot of things they want to see changed and a lot of those things are not going to be changed -- at least, not in a year or two or three. Now when the investigator comes around next year, is not there going to be a good deal of frankness on the employees' part, such as: "Oh, well, a lot of those things I talked about before, but nothing has happened," and then the next year, I suspect it would be a little more heated. I wonder just where the Company gets off on that sort of thing.

The final point I mentioned was the matter of effective supervisor training and I should say it is the point on which I am most favorably impressed. I think perhaps it is the least novel feature, but perhaps it is the soundest. Supervisory training by conference methods using a great deal of case material is, of course, not new. In this present plan however, the case material is especially vivid and it does get across especially well. Then, too, the fact that the material is so personal in a sense, so intimate to these supervisors, and still so impersonal, I think is one of the most important of the things to be said for that work. And then I think of another important point Mr. Putnam did not happen to mention just now: that is, the interviewers themselves are getting extremely valuable training for future supervisory work; and I understand the plan is to use that as one part of the training for supervisory work, or for those who have been and will return to supervisory work in the future.

Just one final word: All of this work at the Western Electric Co. seems to me to be highly significant, primarily because it illustrates on a

large scale the sort of thing that industrial psychology may be able to do in industry. I do not know whether Mr. Putnam would like being called an industrial psychologist or not, but it seems to me this work pretty clearly falls in the field of industrial psychology. I do not know whether you have come to think of industrial psychology as employment office psychology, or even as testing psychology; I think there is some justification for that impression in what psychologists in this country have been doing, but I think it is none the less unfortunate. In this country, and much more strikingly in England and Germany since the war, psychologists have been turning their attention to the broader problems of men at work, instead of restricting themselves to psychology of employment testing and selection. Not that psychological test work is unimportant; on the contrary I consider a most valuable part of the whole field. Incidentally, Western Electric is doing some decidedly significant work in that direction, which falls in an entirely different division from that Mr. Putnam has been talking about.

This whole study of efficiency in work and the human factors affecting efficiency (and not only efficiency thought of in terms of output and turnover, but human efficiency thought of in human terms -- or perhaps drop the word "efficiency" and say employee well being, satisfaction, morale, happiness) is very definitely the broad field in which industrial psychology finds its problems, as well as in the narrower testing field. There has been a significant movement in that direction in the work in both England and Germany, with a little in this country at the hands of psychologists, though perhaps more has been done here by the industrial engineers. In England, for example, some interesting studies have been made by the Industrial Fatigue Research Board on problems of monotony, on the extent of nervous disorders among employees and on the effects of routine work on employees' attitudes as well as output. This work is all extremely interesting, but it is not a story we can try to go into at this moment.

All this work has -- I repeat what I said in the beginning -- been conducted with an attempt to control conditions and be scientific as far as possible. It does not seem to me that by giving up the notion of control and coining a new expression about (I have forgotten just the wording) "multiple free variation of factors", we make it possible to draw any definite conclusions any more than it is possible by a similar method to draw conclusions in other fields of science.

Thank you. (Applause)

REPORT OF THE MEETING
of the
INDUSTRIAL RELATIONS ASSOCIATION
OF CHICAGO
March 10, 1930.
"IMPROVING EMPLOYEE RELATIONS"
Mark L. Putnam

Discussion led by Arthur W. Kornhauser

SV

THE PROCTER & GAMBLE CO.

Ivorydale, Ohio

March 12, 1930.

Mr. M. L. Putnam,
Western Electric Company,
Cicero, Ill.

Dear Mr. Putnam:

Mr. Byron F. Field of the Commonwealth Edison Company has suggested that I write to you in connection with the problem of foremanship development. At the present time we do not have any organized foreman training in any of our plants, but we are planning to give consideration to this project in the near future. May I take the liberty, therefore, of requesting you to let me have the benefit of your experience in this field of industrial relations? If you would care to take the time and trouble to answer the following questions, we should certainly be greatly indebted to you:

1. What subject matter is included in your foremanship development program?
2. What training methods are used? (e.g., conference, lecture, etc.)
3. When and how often are meetings held?
4. Where are meetings held?
5. Who directs the program and who presides at the meetings?
6. Is your company thoroughly "sold" on the effectiveness of foreman training as it is now carried on?

Any printed or typewritten material which you might care to send me would, of course, be very welcome, as would any suggestions or recommendations.

Sincerely yours,

H. B. Bergen,
Director of Industrial Relations.

HBB:MH

FORWORD

These reports deal with information gathered during a three day visit at the Hawthorne Plant of the Western Electric Company for the purpose of studying the industrial relations experiments which they are conducting.

I want to express my sincere appreciation of the treatment accorded us by Mr. G. A. Pennock, Asst. Works Manager; Mr. M. L. Putnam, Chief of Industrial Research Division, and his assistants. Their wholehearted cooperation and willingness to give unsparingly of their time and information was a practical demonstration of real industrial cooperation.

The conclusions and comments in the reports herewith are those of a layman and are not meant to convey the impression that I regard their experiments as other than a sincere and intelligent approach to one of their problems.

The report is in two parts: Part 1 deals with the Laboratory Experiments and Part 2 with the Interviewing Plan.

I brought back a considerable amount of printed material which is available to anyone interested in more detailed information about the experiments. This data includes,

Progress Report on Laboratory Experiments
Specimen Interview
Conference Leader Manual
Supervisors' paper "Selling Yourself to Your Subordinates"
Mr. G. A. Pennock's, Mr. M. L. Putnam's and Prof. Elton Mayo's papers delivered at the autumn conference of Personnel Research Federation.

C. A. Cole.

(Dennison Mfg. Co.)

1730

INDUSTRIAL RELATIONS EXPERIMENTS

HAWTHORNE PLANT

WESTERN ELECTRIC COMPANY

Laboratory Experiment

The primary purpose of this experiment was to arrive at a personnel program based on a scientific approach to the problem rather than on executive thought. The original problem called for finding the answers to such questions as:

1. Why does output drop in P.M.?
2. Do employees actually get tired out?
3. Are rest periods desirable?
4. Is a shorter working day desirable?
5. What is the attitude of employees toward their work and toward the company?
6. What is the effect of changing the type of working equipment?

The reason for making the studies under laboratory conditions was because of a recent experience with a problem of workroom illumination conducted in the regular workrooms by engineers in cooperation with line executives and personnel. The results showed that there were so many continuing factors affecting results that it was almost hopeless to measure the effect of any single factor and that the whole proposition was most unscientific.

The Western Electric's personnel program contains many of the principles which we have and includes such policies as: rates based on time studies and guaranteed against change; open door policy for all employees; promotion from within and supervisory training. The company does not have any form of employee representation nor does it have a partnership and unemployment plan.

Location - Equipment - Conditions

A small section in two of the workrooms has been partitioned off and fitted up with exactly the same kind of work bench, chairs,

etc. as the regular workers have. The materials used by the test operators are exactly the same as used by regular operators. The methods used, as far as can be observed with the eye, are the same as are used by regular operators. The service, which consists of keeping girls supplied with materials and of removing finished work, is a little better, in my opinion, than in the regular workroom.

Type of Work

One group assembles various types of telephone relays. The operation consists of collating 30 or 40 small metal parts located in a partitioned tray in front of operator. The parts are fitted one on top of another either by placing bored parts over posts or screwing one part to another with small screws.

The second group splits Mica. This Mica comes in pieces ranging in size from 2" square to 6" or 8" square and several thicknesses through. The operator splits the thick piece into several individual layers of a standard and uniform thickness. This thickness is measured by inserting the sheet into a thickness gage.

Personnel

There are five experienced operators in each workroom and in addition an employee whose job it is to keep operators supplied with work and another to move finished work from the operators.

Operators are experienced girls from regular workroom. Selection consisted of asking for volunteers. Originally only one girl volunteered and the balance of the crew are friends whom she has persuaded to try the experiments with her. Operators are chiefly Polish or Bohemian. Every operator is considered fully experienced girl before going into laboratory.

There is one person in each laboratory who compiles production records. Mr. Hibarger, who has immediate supervision of the experiments, divides his time between laboratories observing what goes on and interpreting the data obtained.

Supervision

The type of supervision, if it may be called supervision, is quite different from that which exists in the regular workroom and is of special significance.

The supervision in a regular workroom consists of a first and second line supervisor who works closest to the operators. Their job has consisted of checking operators' production and letting them know

what they are doing against the "bogey", checking them severely on poor quality, breaches of discipline and in fact acting in accordance with the usual practice followed by a gang boss or monitor. "Bogey", by the way, is the production of the fastest operator in the piece work group. The foreman and assistant foreman with from 200 to 1000 people under them spend almost their entire day in consultation with the many representatives of their various operating functions such as Planning, Cost Accounting, Inspection, etc.

The supervision in the laboratories has been of an entirely different sort. It has consisted of

1. A talk by the Assistant Works Manager explaining the purposes of the experiments. He has talked over each change with the girls prior to putting it into effect. This practice was discontinued recently and has had no apparent affect on girls' work as yet.
2. The observer holds informal conversation with girls from time to time about their work and anything else of interest to them.
3. No checking up as such has been done. Operators are not told what they did this week against last and the repair-of defective relays is done by the whole group on Saturday mornings without any comments from any supervisor about the quality of the work. The weekly pay envelopes, of course, show the operators that they are doing more.
4. The observer sits within hearing distance of girls and keeps a log book in which he jots down any comments that they may make which seem to him pertinent to the whole experiment. This is done very informally and without the knowledge of the girls.

The interesting and important things to note, in my opinion, are, first, the set-up whereby girls are left pretty much alone as far as any "checking up" is concerned and secondly, the type of man who is acting as observer. A paragraph about Mr. Hibarger, the observer, is in order here.

Mr. Hibarger, the man who originally suggested the proposition, has been located in the laboratory as an observer and to compile data pertinent to the experiments. This man is about 40 years old and had worked at many jobs before coming to Western Electric. He has been with W. E. about 10 years and during this time has had a varied experience including the checking and adjusting of questionable rates in various sections of the plant. He has an odd personality and has been regarded by management as rather difficult to handle. He is apparently very

well liked by the employees. He is very much research-minded and has accumulated data about innumerable things as well as having worked out 52 definite questions which he hopes to find the answers to during his experiments. The man is intensely interested in his work and probably cannot help but instill an interest on the part of those he is in daily contact with.

Test Periods

The operators in the laboratories have been exposed to thirteen different situations varying in length from 2 weeks to 12 weeks. I will list the periods and describe briefly what happened in each.

Period #1 - Regular Dept. - 2 weeks - Secured data as to producing ability in regular department.

Period #2 - Introduction to Test Room - 5 weeks - Used this time to secure additional data about individual producing abilities before introducing any changes.

Period #3 - Special Gang Rate - 8 weeks - Operators worked on a gang rate involving about 100 operators before coming into Test Room. Gang Rate changed so girls' earnings would be figured on their own group of 5 instead of 100.
This change resulted in an increase of about 15 percent in production.

Period #4 - Rest Pause - 5 weeks - Two 5 minute pauses at 10 A.M. and 2 P.M. respectively.

Period #5 - Rest Pause - 4 weeks - Two 10 minute pauses at 10 A.M. and 2 P.M. respectively.

Period #6 - Rest Pause - 4 weeks - Six 5 minute pauses at 8:45 A.M.; 10 A.M.; 11:20 A.M.; 2 P.M.; 3:15 P.M.; 4:20 P.M.; respectively.

Period #7 - Rest Pause - 12 weeks - One 15 minute pause at 9:30 A.M. with a lunch and a 10 minute pause at 2:30 P.M. This proved to be the best set-up for rest pauses.

Period #8 - Same as No. 7 with a 4:30 stop - 7 weeks.

Period #9 - " " " " " " 4:00 " - 4 "

Period #10 - Same as No. 7 - 9 weeks - This was done to check original records kept during Period #7.

Period #11 - Same as No. 7 with Sat. A.M. off - 9 weeks.

Period #12 - Same as No. 3 (No rests and no lunches) - 12 weeks - This was done to check affect of changing type of rate only.

Period #13 - Same as No. 7 - 11/26/28 to date - Operators have 15 minute rest at 9:30 A.M. with lunch (employee furnishes lunch and company furnishes beverage) and a 10 minute rest pause at 2:30 P.M. without lunch.

Positive Results and Conclusions

Production of laboratory groups increased in every period after Period #2 and is still going up.

The total increase to date ranges from 35 percent to 50 percent.

Absence among test room operators has decreased 80 percent and absence due to sickness is only one-third of what it was formerly.

The best results were obtained with the morning rest period of 15 minutes at 9:30 A.M. with a lunch and a rest period of 10 minutes at 2:30 P.M. without a lunch. They found a considerable number of people who came to work without having eaten any breakfast. The lunch at 9:30 A.M. seems to satisfy their hunger and cause them to eat a less hearty meal at noon. The net result is to iron out most of the late morning and afternoon slump caused by undereating or overeating.

The Special Gang Rate in the third period probably accounts for 15 percent of the total gain.

Studies to date show that such factors as the type of working day, emotional status of individuals, home conditions, pleasant or unpleasant working conditions do have a decided affect on production.

Substantial proof is at hand to show that there is greater contentment among laboratory groups than there was when they came from their regular department and that the factors contributing to this contentment are of major importance in the results obtained. There is a definite need for attempting to evaluate such things as contentment, preoccupation, concentration, training, etc.

Experiments have shown a need for an entirely new kind of supervision.

Negative Results and Conclusions

There are no facts as yet to prove that there is such a thing as cumulative fatigue or that rest periods are justified from a physical standpoint.

Studies to date show that such factors as amount of sleep, periodic illness, changes in type of relay, and overtime have no apparent effect on production.

Application of Results to Regular Departments

Changing kind of gang rate in regular producing department with a small group of 5 operators resulted in 10 to 15 percent increase in production. This has continued long enough to indicate that most of the increase is due to new type of rate.

Rest Periods have been installed in several of the regular departments affecting about 2500 people. The type of period adopted is the fifteen minutes at 9:30 A.M. with lunch furnished by employee and beverages furnished by the company followed by a 10 minute period at 2:30 P.M. without lunch.

Production records kept of results in regular departments where rest periods have been installed show an increased production of from 2 to 4 percent.

A study of individual production records where rest periods have been installed show quite definitely that operators' work habits are very much upset and that they go through a process of adjusting their work habits or acquiring entirely new ones. There is a temporary slump in production in most cases lasting from 3 to 5 weeks but the upswing carries the operators' production over the basic line.

Future Program

The plans are now to attempt to find the answers to some of Mr. Hibarger's fifty-two questions just as soon as the production of either group levels off so that increased or decreased production can be attributed to a known change.

It is also planned to remove Mr. Hibarger temporarily from close contact with the groups in order to determine what effect his presence has had in the results.

Personal Conclusions

Although the Western Electric people made no statements on this point, I should say the laboratory experiments are pretty much self-

supporting. The increase of from 35 to 50 percent in production by the 10 laboratory operators plus the 2 to 4 percent increase to date among 2500 to 3000 regular workers because of rest pauses makes this conclusion self-evident.

I believe a close study of Mr. Hibarger and his methods would reveal some interesting facts and that his removal from the experiments will show that the operators' production is affected.

I believe that such things as the size of the laboratory groups, their segregation and periodic changes in their routine of work have been important factors in stimulating interest.

I am of the opinion that the most practical way of selling supervisors the value of stimulating interest and increasing morale is to expose them to laboratory experiments and give them a personal part in the industrial research program.

Recommendations

We should seriously consider the value to be gained from creating one or more small laboratory groups of our own workers for the purpose of "finding out what we need to know about folks who work for a living". We might find from laboratory experiments and studies some valuable facts about:

a. the relative advantages of,

small groups, physically separated from each other with the ordinary distractions of the present producing department eliminated, and supervised by a supervisor who is sold to the idea that good supervision includes gaining the full respect and utmost confidence of his or her operators.

against,

present layout of large groups of people in an open workroom with the many distractions that interfere with ability to concentrate and supervisor who feels that checking count, quality, discipline, daily delivery, etc., are paramount and that personnel contacts are for foreman to handle exclusively.

b. how many people doing certain types of work it is good business to expect a fully qualified supervisor to look after and what this supervisor's duties and responsibilities should be.

I recall our experience of two years ago when we had girls learn S&S operating in 6 weeks when the best previous record had been from 16 to 24 weeks. The set-up was briefly this: we selected some girls who had some experience on hand boxmaking operations - these girls knew what

S&S machines looked like and how much the job paid - we selected a new instructor who had no set ideas as to how long it should take to learn the job - the instructor was all "peped up" to make the experiment show good results - all through the training period she used first one interest stimulating tool then another - girls were kept on their machines continuously - new ideas as to selection of work and training methods were tried - progress was followed almost daily by the Dept. Head and commented upon informally to instructor and girls. Please note the "interest factors" prevalent throughout this experiment.

I feel that we lay out and organize our workrooms and personnel more on the basis of executive judgment than on many principles backed by definite facts. This is especially true as regards personnel and the increasing or decreasing of our supervisory group.

We should try out certain experiments in establishing rest pauses under regular producing conditions and based on the Western Electric's data. If their findings with a small laboratory group hold true under regular conditions it is quite possible that many things about people's reactions which are found to be true there will be equally true here.

If we decide to do industrial research with a laboratory set-up it would be mutually advantageous for us to keep in close touch with Western Electric to avoid unnecessary duplication of effort.

INDUSTRIAL RELATIONS EXPERIMENTS

HAWTHORNE PLANT

WESTERN ELECTRIC COMPANY

Interviewing Experiment

Purpose

The purposes of interviewing employees were,

- a. to learn more about employees' likes and dislikes.
- b. to improve the mental attitude of employees.
- c. to find out from factual data what "Morale" is.
- d. to get material for supervisory training.

Interviewing Staff

The original staff comprised five people from within the plant who either had a supervisory job or were potential supervisors.

The present staff totals thirty people most of whom are young college graduates who have majored in psychology. The plans are to increase the interviewing crew about Mar. 1 and they are as yet undecided whether to include several supervisors on the staff or not. The interviewing job, if supervisors do it, will be a part of a supervisor's training.

Interviewers' training

The new interviewer talks the job over with the interviewing group chief and other experienced interviewers. He reads over some interviewing material and tackles an interview at the end of 2 or 3 days.

The interviewing group holds a conference each Saturday morning to exchange experiences.

It takes about 6 to 9 months to make a good interviewer.

Guarantees

Employees were promised that whatever they might say would be held strictly confidential to the extent that their names or anything to identify them as an individual would not appear on any record which might be made of their interview.

Supervisors were promised from the start that comments obtained from interviewers would not be reported to their superiors or made the basis of any direct action against them.

Employees Interviewed

First experiments were tried in the Inspecting Branch comprising about 1600 people.

Present program calls for interviewing 20,000 employees during 1930.

Employees with more than 1 year's service are to be interviewed.

Employees with less than 1 year's service are interviewed only in case they are leaving. This interviewing is done by the regular Personnel Division and is not a part of the Industrial Research program.

Supervisors Interviewed

A few supervisors were interviewed at the start but this practice was stopped for some reason not clear to me.

Supervisors are interviewed now unconsciously through their talks with the interviewers about the program, but no written record is made of these interviews.

Interviewing Methods

The first method used was as follows:

- First Stage of Inter-
viewing pro-
gram
- (a) interviewers worked up a list of standard questions about company matters.
 - (b) foremen were asked to select employees whom they wanted interviewed.
 - (c) interviewing was done at employee's workplace if it offered sufficient privacy or at some more quiet place if workplace was too open and near other workers.
 - (d) the plan was explained to the employee and he was asked to express his opinions and talk about any or all of the subjects covered by the list of standard questions.
 - (e) The interviewer took down the employee's comments as near verbatim as possible.
 - (f) the subject matter contained in an entire interview was used as material for discussion at supervisor conferences.

A study of progress and results from the first few hundred interviews showed some very important facts which indicated a need for an entirely new idea of interviewing technique. Some of the more important facts brought out showed that,

- Results of First Stage of Interviewing Program
- (a) the direct question method forced employees to talk about things which the interviewer was interested in but not those which the employee was interested in.
 - (b) employees assumed something must be wrong with these company activities because the management was asking for opinions about them.
 - (c) employees persisted in wandering off the subject at hand and seemed to want to talk about social and home situations many times.

The present method differs materially from the first method in that,

- Present Interviewing Method
- (a) employees are encouraged to talk about anything which is uppermost in their minds regardless of whether it pertains to the company or not. About 80% of the comments do not pertain directly to the company.
 - (b) interviewers technique consists of being a good listener.
 - (c) interviewer tries to get employee to cover the following field in the course of an interview;
 - Social situation
 - Home "
 - Employment "
 - Personal & Medical HistoryThe interviewer's methods are very indirect, however, and before the interview gets well under way the interviewer has had to do what he describes as Beginning, Sparring and Dickering.
 - (d) material from interviews is analyzed, classified and filed by subject and section of plant from which it originated.
 - (e) supervisor conferences deal with one subject at a time and use comments pertinent to the subject from many interviews as a basis for discussion.

Time per Interview

There has never been any time limit put on the length of an interview and there has been a decided increase in time per interview. The average length of an interview in March, 1929 was 41 minutes; in June it was 69 minutes and in December, 93 minutes. Records so far this year show that at present interviews are averaging about $2\frac{1}{4}$ hours each. The original budget call for 20 interviews per interviewer per week, but this will probably be impossible of attainment.

Supervisors' Reactions

The supervisors regarded the proposition as a direct criticism of their ability at first, but this is gradually wearing away.

The supervisors are now asking for more specific criticisms of their technique than it is possible to give by the present indirect method. The present method furnishes them with comments which any one of 42,000 people may have made about any one of 1200 supervisors.

This attitude of the supervisors is particularly significant to me especially in view of the Western Electric's original idea that the indirect method of developing Supervisors' technique is much more effective than the direct method.

The W. E. Company is still in doubt as to whether it will grant the supervisors' requests or not.

Analysis and Classification of Employee Comments

This is the latest function to be incorporated into the interviewing program and was started in September, 1929.

Purpose

1. To accumulate data for improving Plant and general working conditions.
2. To assemble data from which to determine the relative importance of existing Employee Relations Policies and to serve as a guide in formulating new ones.
3. To put data into shape for use in Supervisory Training.
4. Compilation of large amount of data suitable for research study.

Censoring and Analyzing

This job consists of selecting relevant comments, altering or wiping out any identifying matter and indicating the proper subject heading and plant location under which to file the comment.

One Censor will take care of the data secured by three Interviewers.

Qualifications of Analyzer

Mr. Byron, who is in charge of this function, lists the following as being his idea of the requirements of an ideal analyzer:

1. Age - 40 years.
2. Education - College Graduate - Psychological Background.
3. Experience - Varied practical experience in industry, a considerable amount of which has been with the Western Electric Co.

Subject Headings

A study of several interviews resulted in establishing 36 subject headings under which to file comments. A list of these headings with results of some analyses that have been made is interesting. The analysis was based on some 3000 interviews and 9037 comments.

<u>Subject</u>	<u>Total Comments</u>	<u>Favorable</u>	<u>Unfavorable</u>
Absence	15	9	6
Advancement	330	110	220
Aisles	156	5	151
Bogey	672	186	486
Club	990	904	86
Dirt			
Fatigue			
Floor			
Furniture & Fixtures			
Hospital	585	444	141
Hours	720	360	360
Interest	659	619	40
Light			
Lockers			
Material			
Monotony			
Noise	12	?	?
Payment	4013	1701	2312
Placement			
Restaurant	243	141	102
Health-Safety	1048	202	846
Sanitation			
Smoke & Fumes			
Steady Work			
Social Contact			
Temperature			
Thrift			
Tools & Machines			
Transportation			

<u>Subject</u> (Cont'd)	<u>Total Comments</u>	<u>Favorable</u>	<u>Unfavorable</u>
Vacation			
Ventilation			
Welfare	698	596	102
Working Space	566	39	527

Study shows,

- (a) only 12 comments on Noise
- (b) there were 4013 comments on Payment (2313 unfavorable)
- (c) " " 672 " " "Bogey" (486 ")
- (d) " " 990 " " Club (904 favorable)
- (e) " " 1048 " " Health-Safety (846 unfavorable)

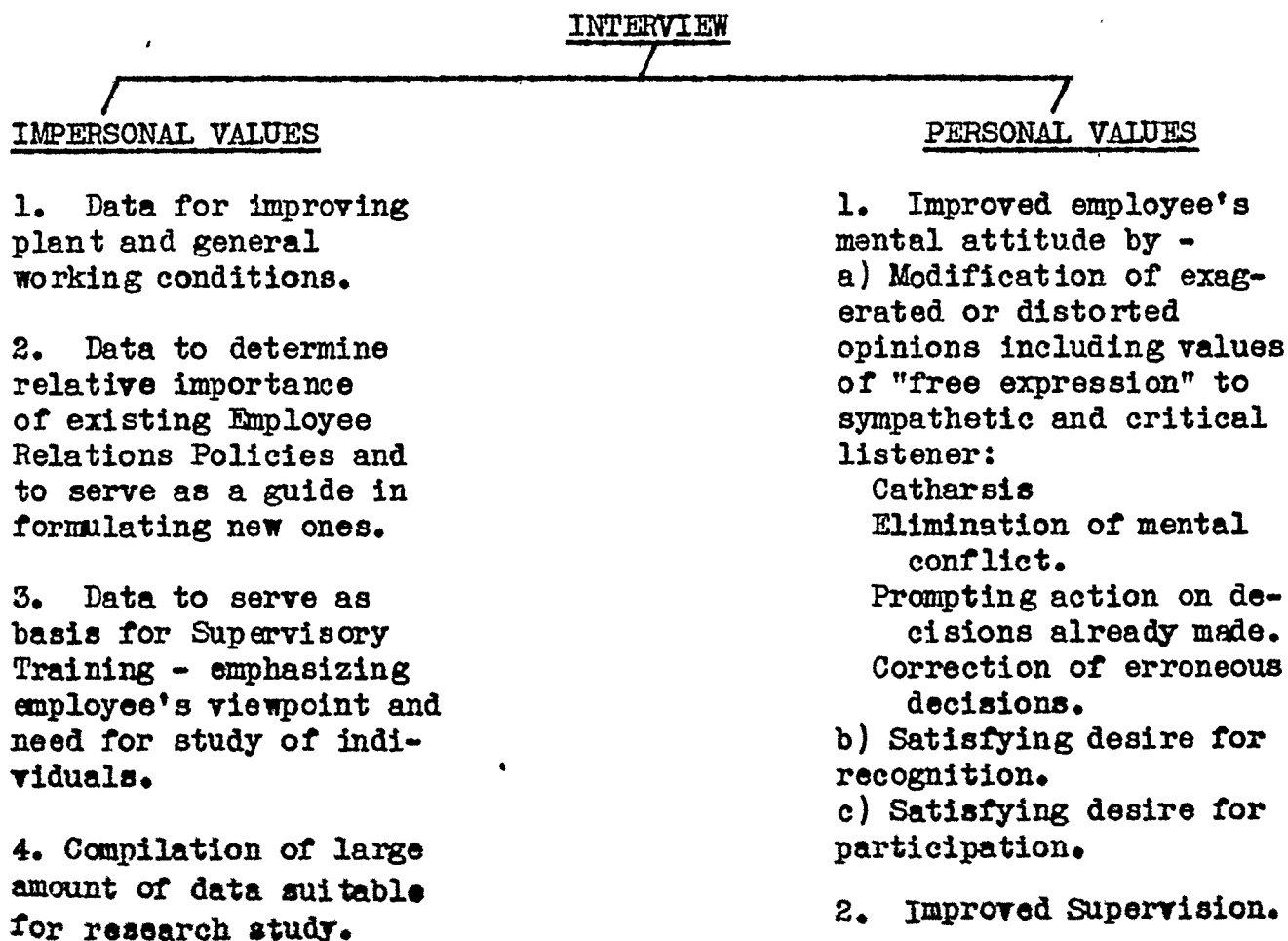
Records

When the analyzer has censored and indicated where to file comments, a stenographer types the individual comments on small sheets of paper about 3 x 5. Four copies are made and distributed as follows:

- 1 copy to Subject File
- 1 " filed with original interview
- 1 " filed by plant location
- 1 " sent to Personnel Manager

Outline of Possible Values in the Interview

This is a copy of an appraisal of the interviewing program made by the Western Electric Company.



General

The Assistant Works Manager told me that now and prior to the trying out of the interviewing plan they had an open door policy available to all employees. He believed it was used quite fully but interviews have indicated that his belief was not justified. The only method under the old set-up for handling complaints was the direct method which resulted usually in hard feelings and the tendency of Supervisors to "take it out" on the employee concerned.

An interesting interview in the nature of a confession was secured from a workman while we were there. If the facts are as he describes them and the condition can be corrected, the possible saving on material alone to the Western Electric Company will be around \$400,000.

Supervisor Training

Definition of Supervisor

The term Supervisor includes anyone in the operating branch who has direct charge of the work of other people. The organization up to and including superintendents includes,

	(A. 1st Line Supervisor	-	direct charge of from 15-30 people
1 dept.	(B. 2nd " "	-	" " " " 50-150 "
	(C. Foreman & Asst. Foreman-	"	" " " " 200-1000 "
	D. General Foreman	-	" " " " 2 to 5 depts.
	E. Asst. Superintendent	-	" " " " 3 or 4 Div.
	F. Superintendent	-	" " " " one Branch

Purpose of Conferences

To properly train Supervisors in how to improve the mental attitude of employees.

To arrive at a better understanding of what "Morale" is, what the factors are that govern it and what a supervisor should do toward improving it.

Conference Groups

The groups include 1200 Supervisors divided into 72 groups.

This division is made so that 1st Line Supervisors meet together, 2nd Line Supervisors together and Foremen and Assistant Foreman in a third series of groups.

The purpose of this kind of grouping is to get the fullest expression of opinions by having people of about equal rank together in the same group.

Conference Leaders

There are 8 of these leaders headed up by Mr. Howarth who is responsible for supervisor training.

All of these men have had teaching experience in the Hawthorne School.

Each leader's training consists of,

- a. Sitting in at other conferences as an observer and the taking of notes at conferences for other leaders.
- b. Weekly Saturday morning Conference Leader conferences to exchange experiences and discuss technique.

Preparation for Meeting

The leader makes an outline of the points which he hopes to bring out through discussion.

He secures all available employee comments about the subject and selects about two dozen comments which he considers are the best to bring out the points contained in his outline.

Mr. Howarth usually plans to conduct the first conference on any new subject and handles the Foremen and Assistant Foremen's Groups.

Conference

We sat in for two hours at a foremen's conference on the subject of "Health". The experience was truly typical of our own daily experiences with conferences.

I followed the progress of the meeting closely with the idea in mind of trying to estimate roughly how the time was divided and also to compare the foremen present with our own as regards intelligence, knowledge of the subject and general alertness.

The time of the meeting was divided about as follows:

- a. 25 percent spent by leader explaining written data furnished about subject.

- b. 25 percent explaining and justifying existing health policies.
- c. 25 percent asking foremen direct questions about how they handled certain health problems in their departments.
- d. 25 percent discussing employee comments and summing up on points brought out.

The subject was a very difficult one to get discussion on and I thought Mr. Howarth did a very good job considering this fact.

The 18 foremen attending, in my opinion, would rate about on a par with our average foreman and no higher. The average age of this group would run between 40-45 years.

The meetings are held bi-weekly in a conference room similar to our own. Smoking is permitted during the conference and a short recess taken between the first and second hour.

General Conclusions and Comments

An outline of the Western Electric Co. Industrial Research organization would be about as follows:

Chief of Industrial Research Division

Asst. in Charge of Lab. Exper. (including about 16 people)
" " " " Interviewing (" " 30 interviewers
and Stenographic Service)
" " " " Censors & Analyzers (including about 10 Censors
& Stenographic Service)
" " " " Supervisor Training (including 8 Conference
Leaders & Stenographic
Service)

The Industrial Research Program, as I see it, will cost close to a half million dollars annually or about \$12.00 per employee per year.

The Western Electric Company has a regular Personnel Branch at this plant of 600 people and spends about \$150.00 per year per employee on Personnel work. We spend about \$45.00 to \$50.00 per person per year, including pensions and unemployment. If E.I.P. is included we spend about \$100.00 per person per year.

A general picture of their size and rapid growth is worthy of note when considering their problem with our own.

The growth from 25,000 employees to 42,000 employees in one year must have created a tremendous training problem.

The high degree of functionalization and specialization probably has narrowed a supervisor's and employee's job down to a point where the problem of maintaining "Morale" and "Interest" is extremely difficult. The feeling I get is that Supervisor and Employee Morale, at least toward the daily job, was and is yet pretty low. The question I raise here is whether the "morale" building program isn't upside down. If it is a truth that employees reflect their Supervisors and Supervisors their Foremen you cannot build up a high degree of morale among the supervisors by working from the bottom up with material which they have had no part in obtaining. You might get Supervisors to watch their actions closer through fear, but this would not boost "morale" any.

The function of Personnel has been apparently highly centralized and their contacts with the personnel situation at the job arrived at through records, reports, etc. The question of doing personnel work in the departments either through a departmental Personnel Worker or by training their Supervisors to be good personnel men had not apparently been considered important up to the time these experiments started.

The management's belief is that the personal values in the interview such as free expression, emotional release, satisfying desire for recognition and participation are of such major importance that if nothing further was done than to satisfy these desires, the program would be worth all it costs. This belief is backed by comments which come in from employees and faith on the part of the management closest to the program. This is questionable data, in my opinion, upon which to base a half million dollar expenditure and is far from scientific in its approach.

There is a major weakness in the interviewing procedure which should be quite unnecessary. This weakness is the lack of any check on the validity and accuracy of the comments brought in. The interviewers are mainly young college graduates whose present job depends on how the interviewing program is regarded by Western Electric's higher management. It is perfectly possible for an interviewer to word comments to suit himself and also to inject comments favorable to the plan. We all know how the putting in or leaving out of even one word sometimes changes the entire meaning of a sentence. A method for recording the conversation of an interview mechanically would render this material much more valuable from a scientific standpoint and the interviewing set-up resulting would be better because the interviewer could be free to do a better job at listening.

I have a greater respect for their contention that their employees really do "unload" than I had before actually seeing some of the material obtained by interview. I would want to see a great many more interviews than I did before I would believe that a large percentage of employees will really talk about the things bothering them most, especially to a person whom they have known for only a few minutes. The interviews I read were chiefly mental cases of some sort and I did not see any cases where the employees refused to talk or where one seemed to be a normal and rational thinker.

The Western Electric's contention that they are getting data for improving conditions, determining relative importance of existing policies and material for supervisory training, I can agree with, but submit that the method used is much too costly. I believe these same results could be obtained through a representation plan or by interviewing selected employees and at one-fourth the present cost.

The confession which has been referred to previously in this report was a case where workmen apparently have been cheating on their rates and deliberately wasting copper wire. I cannot help but think that had the job been supervised by a Supervisor who came up through the job and was a strong company man, this confession would never have been possible. The decision as to what to do about it is fraught with danger because the temptation to "cash in" on the confession is great but the result of breaking their promise to regard interviews as confidential is great also.

Their contention that once you have given an employee a chance to get things "off his chest" no further action is necessary, is highly theoretical, in my opinion. I can agree with the statement that because of this process distorted opinions become more nearly normal, action is prompted on partly made decisions, etc. but do not agree that the "real" things entirely disappear. I feel that when an employee talks to an interviewer he regards him as an agent of management and does expect that some tangible thing will be done about the things that still bother him after he has "taken them out and looked them over". I feel that to set up a formal procedure for finding out these things and at the same time provide no direct way to do something about them is dangerous practice and in the long run may knock down rather than build up "Morale".

Their contention that the indirect approach to a criticism of supervisory technique is superior to the direct is open to question. I believe it depends entirely on the "morale" of your supervisory force as to whether they are big enough to take direct criticism of their business ability in an impersonal way.

The Western Electric Co. has a highly efficient set of equipment, layouts, methods and other necessary mechanical and physical means for getting out good work at low costs, but in my opinion, has through

rapid growth and sheer size lost entirely the morale and interest factors to be found in the small industry or department.

Recommendations

We should continue to iron out our misunderstandings by the direct method and should correct personal shortcomings of individual members of management in an informal and personal way. The approach to the problem which the Western Electric Co. is making does not lend itself to a small company with the industrial relations background which we have built up over the past years.

We should take to heart the proof which Western Electric is piling up that this mental attitude of people toward their job is a truly vital factor in their value to the company.

We should attempt to get across more strongly than ever to Supervisors and Foremen the fact that an employee's desire for self-expression should be fostered and that none of us are in a position to judge what is "wheat" and what is "chaff". The main point is to be a good listener if an employee is bothered about something and wants to "talk it out" with somebody. The whole problem of making good personnel people out of our Supervisors and Foremen should be done by making employee relations take a more prominent part in divisional meetings, by exposing Supervisors and Foremen to industrial relations experiments in small production laboratories and the many conferences and rotation transfers which we now have. The problem of maintaining "Morale" in hard times is greater and more important than when things are booming.

We should stick to our representation plan for getting at employee's viewpoint of existing policies or any proposed changes.

We should study every proposed change in organization or division of work from the personnel angle to be sure we take account of the human problem involved in any specialization or functionalization scheme.

Copy

This copy for Mr. G. A. Pennock.

Forbes Magazine
120 Fifth Avenue
New York

April 12, 1930.

Mr. E. S. Bloom,
Western Electric Co.,
195 Broadway,
New York City.

Dear Mr. Bloom:

A reader makes the following suggestion:

"You might inquire into the plan of employee examination by the Western Electric Co. I'm told they have a department of Humanics. That they endeavor to get at the way the employee views his job and things in general, including his personal affairs, with the idea of helping him 'repair himself' if need be. I understand the department carrying on this work has an appropriation of \$250,000 for this year and that they spent \$100,000 last year.

"If you can get the information, I think it would make an interesting article for your magazine."

I agree with the writer.

We would be very glad, indeed, to have a signed article by you about this plan.

I would appreciate your letting me know how this idea strikes you.

With kindest regards,

Yours very sincerely,

(signed)

B. C. Forbes.

BCF.Gw

DP

Unexpected By-products of Industrial Research.

The current industrial investigations of the Western Electric Company, in their vast manufacturing plant at Hawthorne, are in point. The story is told in the Personnel Journal for February, 1930, by G. A. Pennock, M. L. Putnam, and Elton Mayo. These studies began nearly three years ago, when a small group of women relay-assemblers were separated from the other employees in this department, and a series of observations and experiments was begun for the purpose of accurately determining individual variations in output and the relationship of these ups and downs to conditions of work -- particularly to such factors as method of payment, length of working day and working week, nutrition, sleep, length and distribution of rest periods, and the like.

The procedure required that conditions be maintained as nearly constant as possible for a period of weeks, followed by the introduction of a single change, such as provision for a light lunch at the time of the mid-morning rest pause. After a while another change was introduced, such as shortening or lengthening the working day. All this time, each worker's output was automatically recorded minute by minute. There was no pressure to speed up, no driving by the supervisor. But the workers were encouraged to tell how they felt, to comment on what they liked and disliked about the situation, and also to mention anything that happened outside of working hours that might be useful in accounting for their fluctuations in working efficiency.

The outcome has been astonishing. Workers' earnings and satisfactions improved far beyond expectation, and in some degree quite independently of the changes made in physical working conditions. While information of real value regarding rest periods and similar variables was secured, the management attaches far greater importance to what this experiment has revealed regarding the characteristics of effective supervision. Indeed, a systematic effort is now being made, through a program of employee interviewing and a new type of supervisory training, to extend throughout the works to all the 40,000 employees some of the benefits that were first brought clearly to light in this modest experiment. Here, as in many scientific researches, the unexpected by-products have far exceeded in value the direct returns, important as those have been.

Excerpt from "Achievements of Industrial Psychology"

By: W. V. Bingham, Ph.D.

Personnel Research Federation, New York City.

Reprinted from "Mental Hygiene", Vol. XIV, No. 2, April, 1930,
PP. 369-383.

OFF THE CHEST

As that myriad-friended writer, Nellie Revell, found when she issued her celebrated book, it is an immense relief to get things off one's chest--or, to use an older but almost identical phrase, to unbosom oneself.

There is extraordinary easement merely in pouring into another's ear the grievances, complaints and botherations we all suffer in an ill-adjusted world. Why should this be so? Particularly when that ear belongs to someone quite unable to redress our wrongs? Students of the mind say that to the average human being the expression of dissatisfaction is halfway to removal of its sting. We all know this is so.

But suppose our tale of woe concerns the place where we work? And suppose the aforesaid sympathetic ear belongs to someone who can and will carry our kick to the bosses--and suppose this is done without telling our name or otherwise giving us away, thereby protecting us from the reprisals of foremen or fellowworkers--and suppose, moreover, the bosses are eagerly waiting to know our woes--isn't that an almost ideal arrangement?

Recent reports in the trade press state that at the Hawthorne plant of the Western Electric Company they are doing exactly this, have done it for two years as an experiment, and are beginning to think it is a good scheme. The employees are happier and production figures per man higher than of yore.

Three officials (one of them a Harvard psychologist) are the confessional committee, if it may be so dubbed. Confidential talks are had with all workers in turn. They are assured of strict anonymity and encouraged to get off their chest what they think of the management, their fellow-operatives, the company's methods, their own job and so on. Each worker is his own grievance committee. He unloads his inmost heart.

The talks are boiled down, tabulated, analyzed, then presented to the top-men of the works for investigation and action. Quietly, tactfully, noiselessly, little reforms are instituted, uncongenial people are separated, new rules put in force, irritations of all kinds removed, readjustments of procedure made. A holy calm descends. Vexed human spirits are made able to think more of the work itself and less of personal frictions.

But even before any action whatever is taken the kicker feels better. He has made a release of thoughts that grew worse with silent

brooding. They are off his chest.

In any place where numbers of people work on a common task there are hundreds of unnecessary small wrongs or fancied wrongs put upon the minor employee, sometimes by his concern, sometimes by his associates. There is a world of unuttered fury beneath the surface in many organizations and no safe way bring the causes to the ear of the management. Meanwhile efficiency is impaired.

The Hawthorne plan seems to be a step toward better conditions. Something of the sort is worth any proprietor's consideration.

SAID the ancient sage, Erasmus: "To use poor paper marks the decline of taste both in printer and patron."

Taken from The Eaglet - May, 1930.

SV

YOUNG MEN'S CHRISTIAN ASSOCIATION
Waterbury, Conn.

May 17, 1930

Mr. M. L. Putnam,
Western Electric Company,
Hawthorne Works,
Chicago, Illinois

Dear Mr. Putnam:

I am gathering data for a thesis in which I hope to show definitely that conditions in the home and elsewhere off the job have a specific influence on the efficiency of the worker on the job. Have you additional data besides that in the articles in the February Personnel Journal which would help me? If so, would it be possible for you to let me have these additional data?

Yours truly,

(signed) Arthur L. Purinton,
Education and
Industrial Secretary

The Michigan Daily

WORK EFFICIENCY TRACED BY PUTNAM

Western Electric Engineer Says Mental Attitude
Controls General Efficiency.

DIRECTS RESEARCH WORK

When an industrial employee talks to an interviewer he rids himself of many vicious exaggerations and false amplifications, stated Mr. Mark L. Putnam, Chief of the Industrial Research Division of the Western Electric Company.

According to Mr. Putnam it has been discovered that mental attitude, dependant largely on home conditions, controls the general efficiency of the employee.

"Today industry will not change its present methods unless it is convinced that the change will benefit the employee, for only in that way can the industry advance."

The original purpose of the Western Electric Company's research was to study the effect illumination and other factors have on the productivity and efficiency of the employee.

Thirty girls of equal efficiency were divided into two groups of equal productive ability, and placed in separate test rooms to work under various conditions.

They were given to understand that a large production was not sought, but merely data on their reaction to certain conditions.

Their productivity increased when they were given rest periods, further increased when the rest periods were taken away, and seemed to grow continually no matter what was done. Morning breakfasts and afternoon teas had the same salutary effect.

This lead to confusion, as any conclusion could be made, and the research was leading no where. "And so we came to the conclusion," Mr. Putnam said, "that the prime factor in labor is the attitude with which employees are allowed to go at their work."

SV

UNIVERSITY OF MICHIGAN
SCHOOL OF BUSINESS ADMINISTRATION
ANN ARBOR

May 22, 1930.

Mr. Mark L. Putnam
Hawthorne Works
Western Electric Co.
Chicago, Ill.

My dear Mr. Putnam:

Enclosed is a clipping from this morning's "Michigan Daily", the student paper. You may discover inaccuracies, but as lecture reports in the Daily go, you have fared well.

Please let me say again how much we appreciate your coming to us. You have the students just what I had hoped for, and I have gathered many favorable comments already.

Sincerely yours,

Margaret Elliott
Associate Professor of Personnel

ME:N:SV

THE
NATIONAL ASSOCIATION OF FOREMEN

U.B. Building
Dayton, Ohio

June 12, 1930.

Mr. M. L. Putnam,
Western Electric Co.,
Hawthorne Station,
Chicago, Illinois.

Dear Mr. Putnam:

Due to the rush of events at our Convention at Toledo I was unable to get time to personally thank you at the close of your conference for the splendid work you did in explaining the Western Electric program at our convention. I talked to Mr. Howarth, but found you were surrounded with many other men and when I came back you were gone. Our National Association certainly appreciates more than we can express the courtesy which you and your company extended to us in putting on this conference for us. Many men told me after your conference that you had the "real stuff" and that they wished there was more time for you to tell them more about it.

Our National Association feels that we are extending a real service to industry by our annual conventions and that many men are getting a better insight into the possibilities of better factory management by attending our yearly meetings. Therefore, we feel that you can also be satisfied that you are contributing to this movement by the splendid service you rendered us at Toledo.

Yours very truly,

E. H. Tingley, Secretary.

SV

THIRTEENTH ANNUAL CONFERENCE
on
"HUMAN RELATIONS IN INDUSTRY"

Silver Bay on Lake George, New York
August 27-31, 1930.

September 2, 1930.

Mr. M. L. Putnam
Western Electric Company
Hawthorne Works
Chicago, Ill.

Dear Mr. Putnam:-

I just wanted to express in writing my appreciation of the fine contributions you made to the success of the Silver Bay Conference this year. Many of the men have volunteered the information that they were very much helped by the contribution you made and I just wanted you to know that your coming to us was a genuine help and the influence of the substantial matter which you gave will bear fruit undoubtedly in other areas. May I express the hope that we will have the privilege of your presence at Silver Bay in subsequent years?

With cordial good wishes,

Sincerely yours,

(Signed) H. T. Foster.
Executive Secretary.

M-E-T-R-O-P-O-L-I-T-A-N L-I-F-E I-N-S-U-R-A-N-C-E C-O-M-P-A-N-Y
Frederick H. Ecker, President
POLICYHOLDERS SERVICE BUREAU

One Madison Avenue
New York City

PERSONAL

September 5, 1930.

Mr. M. L. Putnam
Western Electric Company
Hawthorne Works
Chicago, Illinois

Dear Putnam:-

Whether we both descended from Captain John Putnam or General Israel Putnam makes no real difference. So, I am writing you a note to tell you that I meant what I said at Silver Bay with respect to your coming here for lunch with me the next time you are in New York and can find it convenient.

I heard your address on Friday afternoon and liked it a lot. I heard you speak at the Personnel Federation last winter, and shall go again when you speak this fall. This is not a common practice with me as generally speeches bore me to extinction, but I believe you have got something really worth while. I hope you will pardon my leaving your meeting at a quarter of three as several of the men wanted to play golf again. I was sorry you couldn't go with us.

You said that your mind was in a state of flux with respect to the program which you are experimenting with. I am a little surprised at this statement, for it seems to me that you have enough tangible evidence of the social and economic results to make you very steadfast in your advocacy of a scientific approach to Industrial Relations.

With kind regards,

Sincerely yours,

(Signed) Roderic Olzendam

RO:GF

I should look also for some change, apologies to Mr. Mayo as I say this, in the character of the industrial psychology. Not less emphasis, perhaps, upon the type of selection, tests by psychologists but more emphasis upon other approaches. It was perfectly natural when the psychologist came over from the academic halls, that they should concentrate on methods of measuring individual differences. They have made a most important contribution to industry.

But we have to recognize also there is another group of psychologists of which Dr. Mayo would be an example, who are approaching the study of human behavior directly through the study of emotions. After all, as every business manager knows, he is dealing directly and indirectly with the emotions of the worker.

I should suspect that type of experiment which we have in the Western Electric Company, and which Dr. Anderson has developed in Macy's, would be increasingly manifest.

With all these things I would look forward to a demand by industry for a still higher quality of personnel executives, with a more thorough scientific training behind them.

Excerpt from "What's Ahead in the Light of Ten Years' Progress?"
By Joseph H. Willits, Professor of Industrial
Management, Wharton School of Finance and Commerce,
University of Pennsylvania.
Personnel Series, Pers: 13
American Management Association.

EXCERPT FROM AN ARTICLE ON
"THE PERSONNEL RESEARCH FEDERATION IN 1930"

Annual Report of the Director

Addresses and discussions centering around the industrial investigations in progress since 1927 at the Hawthorne Works of the Western Electric Company illustrated the worth of carefully conducted experimental studies of factors affecting the earning power and satisfaction of the employees. These meetings, together with the subsequent publications of papers by G. A. Pennock, M. L. Putnam, and Elton Mayo have drawn the attention of many industrialists to the importance of such a scientific approach to the practical problem of improving employee relations.

W. V. Bingham, Author.
From "The Personnel Journal".
No. 3, October, 1930.

EMH

TODAY'S CONFESSIONALS

Condensed from The North American Review (Oct., '30)

Mary Day Winn

Co-Author with Dr. Ira S. Wile of "Marriage in the Modern Manner"

When a kettle begins to boil, there must be some outlet for the steam; otherwise the consequences are apt to be lively.

American life today is in a state of continual agitation; there is a ferment of growth, a twitter of learning new things, a turmoil of emotional outpouring.

For all this we must have escape valves, especially as many of us think we have learned from psychoanalysis the terrible consequences of keeping anything to oneself. "Tell it to somebody" has therefore become one of our national slogans.

It is significant that the modern passion for telling all was started, or at least accelerated, by a woman. This momentous person was an early patient of Dr. Freud, who came to him before he had formulated his theories of the subconscious. As a preliminary to treatment, she was asked to tell him what her troubles were. She did. She told him with gusto and exhausting detail. When her time was up, she had not finished. Nor did she finish in the next talking session, nor in the next. When she finally did come to the end of her tale, her symptoms had vanished; apparently the confessing had cured her. And it is the principles of this cure which have been developed into the modern theories of psychoanalysis.

Confessing to a psychoanalyst is usually expensive, with no financial compensation unless the patient happens to be a fiction writer or column conductor. These two classes of people have discovered that one of the quickest ways to get new plots is to go to a psychiatrist and let him dig forgotten nuggets of experience out of their subconsciousness, nuggets which later appear, moulded and refined, as prize-winning fiction.

This form of ventilating the emotions has also other drawbacks, aside from the pecuniary strain. The husband who sends his wife to lie on a sofa in a pleasantly shaded room and tell her inmost thoughts, hour after hour, to a sympathetic listener of the masculine gender, has been known to discover that by the time the "cure" was accomplished he had a different and even greater problem awaiting his solution. For it is part of the Freudian technique that the patient must temporarily fix her affections on the medical confessor, who --- as the psychoanalytic gentlemen carefully explain --- becomes for the time being a "father substitute."

Today's Confessionals Cont'd.

When the treatment is over, the doctor faces the necessity for "transference," the delicate undertaking of shifting the lady's affections back to where they legally belong. One unmarried analyst explained to us, in an expansive moment, that his method was to keep the photograph of a very beautiful woman on his office desk. When his feminine patients reached the stage of bringing him little cakes made with their own hands, he would look at the picture and drop a casual reference to "my wife." Competition with the beautiful original was so obviously impossible that "transference" was accomplished almost at once.

For the man or woman, especially the woman, who must unburden her soul and doesn't find it convenient to do so to a psychiatrist or a priest, American life today provides other outlets. Really thrifty hearts sob out their stories on the shoulders of one or another of the confession magazines, at two to five cents per word. The growth and popularity of these periodicals, one of which has a circulation of over 2,000,000, proves that they meet a genuine need. They are escape valves not only for those who write them but, vicariously, for those who read them.

Other hundreds of thousands of men and women tell their secrets to mediums and to the priestesses of the cards, palms, crystal balls, stars and tea leaves. According to a survey made by John Mulholland, Vice-President of the Society of American Magicians, hard-boiled New York pays to these latter day prophets \$25,000,000 a year. Half of this sum the people part with for the privilege of revealing their innermost thoughts and hearing those thoughts repeated back to them; the other \$12,000,000 they pay for charms, and as blackmail to keep the facts thus indiscreetly confessed from being passed along to inconvenient ears.

The dictionary describes astrology as a "pseudo-science." New York police have been willing to discard the word "pseudo" in this definition. So the high priestesses of the stars flourish mightily. Evangeline Adams, chief of the cult, has been chumming with Venus and Mars for 30 years, and more than 100,000 men and women have poured their stories into her ear. People go to fortune-tellers for the ostensible purpose of learning what fate has in store for them. But in the case of women, at least, this is not the real motive, if we may trust Miss Adams's observation.

"Women come to me," she says, "for many reasons. Some practical. Some sentimental. But as the years go by I am convinced that most of them come to pour out their souls. Women should take stock of their souls every once in a while, but it isn't so easy to find someone who will sit down with you to do it."

Today's Confessionals Cont'd.

Indeed it isn't. To meet this emergency the department editors and columnists were born. Anyone who has the price of a two-cent stamp can drain off her secret sins into the catch-all of an agony column. The intimacy of the revelations which women are making literally by the thousands every day to editors, is unbelievable to anyone who has not sat behind the desk of one of these modern confessionals.

Today's confessionals differ from those of a former time in their almost complete lack of secrecy. The modern woman sells her indiscretions, recounted in detail with an eye on the talkie rights, to the publisher who will pay the largest royalties. As boudoir reading, the old domestic felicities have been replaced by THE LIFE OF ISADORA DUNCAN, EX-WIFE, THE PRESIDENT'S DAUGHTER, and similar accounts of excursions beyond the pasture bars.

As might have been expected, the modern woman's weakness for telling all has been studied with tender care by the efficiency experts, and utilized by up-to-date corporations who want to reduce their labor turnover by keeping their women employees contented. A short while ago the Western Electric Company of Chicago selected six of its workers (probably without their knowledge) and for two and a half years checked their work under varying conditions. It was found that their output reached its maximum when they had a supervisor who also acted as "listener," by whom they were encouraged to discuss their little troubles and pour out their confidences. This clever discovery led to an entire revision of the company's methods of training its supervisors.

The readiness of the modern woman, of high or low estate, to take the world into her confidence; to reveal thoughts, desires and emotions which her Victorian grandmother would never have admitted, is part of her general casting off of old reticences and restrictions of every kind. Once the idea of discarding clothes was well started, women discarded them with an abandon which turned the textile industry pale with horror; how far the enthusiasm for soul exposure will go, no one can say. But the new frankness should at least free men of the old complaint that they never could understand woman.

THE AMOS TUCK SCHOOL
OF ADMINISTRATION AND FINANCE
DARTMOUTH COLLEGE

P.O. Box 406
Hanover, New Hampshire
October 1, 1930

Western Electric Company,
Hawthorne Works,
Chicago, Illinois

Gentlemen:

I am very much impressed with the pamphlet you published entitled - "Research Studies in Employee Effectiveness and Industrial Relations", and I am planning to assign it as a reference to the second year course on Labor Policy. I am wondering, therefore, if you have enough copies to spare to send us twenty for the library, for use in class assignments. If not, any number that you can spare will be greatly appreciated.

Sincerely yours,

(signed) HERMAN FELDMAN.
P.

THE PENNSYLVANIA STATE COLLEGE
State College, Pa.

Department of
Engineering Extension

October 3, 1930.

Mr. M. L. Putnam
Western Electric Company
Chicago, Ill.

Dear Mr. Putnam:-

Our Engineering Extension Convention was very successful this year and we want to thank you for your kindness in taking part and helping to make the meetings a success. Everyone spoke of the excellent program and of the efficient manner in which all the events were scheduled and performed.

Unfortunately, I was called out of town for the two weeks immediately following the convention and so was unable to thank you sooner for your excellent paper which was of interest to everyone present.

Very sincerely yours,

(Signed) J. O. Keller
Head, Department of Engineering Extension

FBS

DENNISON MANUFACTURING CO.

FRAMINGHAM, MASS.

October 6, 1930

Mr. G. A. Holmes,
Western Electric Company,
Hawthorne, N. J.

My dear Mr. Holmes:

I have just finished reading your article entitled "Some Problems Confronting the Conference Leader" and I wish to congratulate you upon a very excellent piece of work. I have personally had more than ten years' experience in conducting conferences of foremen and supervisors and I have never come across any statement on this subject as practical and comprehensive as your own. It is my hope that it will receive wide circularization among those who are carrying on this important phase of our industrial activities.

Sincerely yours,

Personnel Manager

J.A. Garvey-C:SV

PROVINCE OF MANITOBA
CANADA
DEPARTMENT OF EDUCATION
WINNIPEG

December 20, 1930.

Mr. G. A. Holmes,
Hawthorne Works,
Western Electric Company,
Birmingham, Ala.

Dear Mr. Holmes:-

I am afraid that one would need
to be much more than twins to get even a small part of the good
things that were offered by way of addresses at the A.V.A.
Convention at Milwaukee.

I unfortunately was at another meeting when your section
was in session. It occurred to me that it is just possible that
you had your address mimeographed in which case I shall be very
deeply indebted to you if you will send me a copy of it in case
you have one left.

Yours truly,

S. T. Newton,
Director of Technical Education.

STN/VT/SV.

UNIVERSITY OF MICHIGAN
Ann Arbor
Department of Economics

December 24, 1930

Mr. M. L. Putnam
Western Electric Co
Industrial Research Division
Hawthorne, Illinois

Dear Mr. Putnam:

Thank you heartily for getting me the memorandum on your suggestion scheme. I am giving the matter a couple of sentences in a footnote. I shall soon send you a copy of the draft article which I have written, hoping to have comments from you and any of your associates who may be interested, before publication.

Undoubtedly you have seen the recent article in the Personnel Journal on the interviewing campaign in Pennsylvania suggested by yours. Apparently the proportion of unfavorable comments there is somewhat higher than in your situation, according to my recollection of the data you showed me this summer.

Faithfully yours,

Z. C. DICKINSON

ZCDickinson:M

The Western Electric Company has maintained for some years a suggestion plan in which no material rewards are given at the time the suggestions are accepted, although at the semi-annual rate revision periods the employee's suggestion record is a factor considered in the determination of his rate of pay. Very careful consideration is given to all suggestions. Each is investigated by experts in the field to which it applies, this investigation in general involving personal interviews with the suggester, to clarify points he may not have made plain in his written suggestion. A letter from the superintendent of the branch in which the suggester works apprises him that his suggestion has been received and has been referred for investigation, and he also gets a final report from the superintendent at the completion of the investigation. Entirely apart from this suggestion system, the company has launched an extensive campaign of interviewing employees, partly in order to find what feasible improvements may be indicated by the spontaneous talk of the workers.^{1/} The idea underlying this feature of the interviewing plan, however, is primarily to obtain suggestions of improvements that will benefit conditions for the worker. Over 14,000

^{1/} See M. L. Putnam, Improving Employee Relations, Personnel Journal, vol. 8, (1930) pp. 314-325; E. Mayo, Am. Econ. Rev., vol. 20 (1930) Supplement, pp. 156-176; J. R. Richards reports a similar interviewing campaign conducted by the Extension Department of Penn. State College, in two small plants. (Personnel Journal, vol. 9 (1930), pp. 281-289), tabulating comments received.

The Western Electric Company's suggestion scheme provides boxes, blanks, protection of suggester from prejudice of his foreman, and the inducement of notation of number and value of suggestions on the suggester's employment record. Suggestions made in the main plant during the last ten years are rather meager in number (6 to 10 per thousand employees) and poor in quality (some 17% adopted). About 29% of the Hawthorne Works employees are women.

A supplementary system of direct contact between the worker and the cost reduction engineers, eliminating the necessity of filling out a suggestion blank, but insuring credit to the suggester and notice to his superintendent, has produced somewhat better results. In 1930, out of 725 suggestions received through this supplementary system, 228 were accepted, 257 were rejected and the remainder were still under investigation when the statistics were compiled.

employees had been interviewed by the summer of 1930 in the manufacturing plant at Chicago (Hawthorne), and extensive notes made of each interview, which usually consumed about an hour of "company" time. An unusual feature of this scheme, which is looked upon as a fundamental research not expected to pay for itself by immediate results, is the deliberate, somewhat psychiatric, attempt to find ways in which problems of the employee's private life interact with his working situation to affect his total productivity. Remarkably frank expressions seem to have been secured in most cases, through careful selection and training of interviewers, added to the background of enlightened policies of the company. Statistical summaries are being made to show, for example, the relative numbers of favorable and unfavorable comments made on subjects such as "Absence, Advancement, Aisles, Club for Employees, Dirt, Fatigue,". Apparently little or no attempt has yet been made in this campaign to elicit, and use promptly, constructive suggestions for improvement of products or production processes; but the new scheme's functions evidently overlap those of most suggestion plans, in that complaints and constructive ideas are effectively invited with respect to working conditions, and especially with reference to supervisory personnel and methods.

*Taken from
Page 2 of 10
Hawthorne Report*

THE UNIVERSITY OF OKLAHOMA

NORMAN, OKLAHOMA

Jan. 16, 1931

Mr. Porter Martin,
Hawthorne Station,
Chicago, Ill.

Dear Porter:-

I greatly appreciated your Christmas greeting and the personal note it contained. It seemed good to hear from you.

I have done a lot of thinking along the lines which you and Max, together with Jim, pointed out to me last summer. I feel that the few hours I spent with you were the high-lights of the work that I did at Chicago on personnel. Some of the ideas which I caught a glimpse of thru your willingness to give me sufficient time to talk about them, have been put into operation here at the University. Maybe more of them will get into operation before the year is over.

I recall you stated during our conversation that though the technique used in these interviews which are had with employees is a "listening" one, nevertheless the interviewer has a certain outline or list of points in mind which may be said to be the points on which he will lead out the employee if the latter individual does not take the initiative. I did not inquire what this "outline or list" might be. Would you be kind enough to give me the "low down" on this point? Also, if you have any further developments to mention along the line of the interviewing work, I certainly will be glad to have word of them. Perhaps some additional publicity has been put out within the department since I saw you this summer, in which case I would appreciate receiving whatever you might send.

We are enjoying the work here a great deal. I have set up the ground work for a counseling program for Freshmen which bears the ear-marks of a Personnel System. Whether or not it can be expanded to cover all four classes is mostly a matter of budget and time. There is plenty of the latter, but right now no increase in the former.

Mrs. Findlay joins me in wishing you the best of luck and the happiest of new years.

Sincerely,

J. F. FINDLAY

SV

UNIVERSITY OF WISCONSIN - MILWAUKEE

HUMAN FACTOR IN PRODUCTION
SUBJECT OF UNIQUE RESEARCH

Western Electric Finds Pay, Placement, Thrift
Take First Place When Employees Talk Shop

"A study of the human energy that goes into our product" is being made by Western Electric's Hawthorne works, second largest plant in American industry. "We know about our machinery, we know about our plant, but we don't know much as yet about the human factor," explains M. L. Putnam, in charge.

During the year past 20 trained personnel interviewers have interviewed under an agreement of anonymity 10,300 representative employees of the 30,000 in the big Chicago plant (The Business Week, March 12, 1930).

Questions Asked

Such questions as these are being answered: What are the workers thinking about? What are they worrying about? What suggestions do they offer? How efficient is plant supervision? Some comments lead to immediate action to improve supervision, correct mistakes, apply good ideas, or stop losses. Most of them, however, are simply material for further deep study.

Having classified all comments, Western Electric finds that workers have talked much about personal situations, both inside and outside the plant. They talked about 35 different things in the plant. Remarks about pay were most numerous. In the 10,300 interviews there were 11,800 comments on this subject, the majority favorable.

Placement came second, 8,830 comments, of which 7,320 were favorable, 1,510 unfavorable. High proportion of favorable comments indicates that Western Electric is doing a good job of putting square pegs in square holes and round pegs in round ones.

The third most discussed of the 35 subjects is surprising -- thrift, 5,810 comments, over 50%. This is explained by the fact that Western Electric has several well-developed savings plans: an employee building and loan, a stock purchase plan, a ready money plan, and an insurance plan. Most employees participate in one or more of these.

Hours came fourth, 4,290; safety and health fifth, 4,030; lockers sixth, 3,850; vacations seventh, 3,720. Of this seventh group, 3,550 were favorable comments. Western Electric gives 2 weeks simultaneous vacation with pay to practically all employees. Two stated

they would rather work straight through than have a vacation with pay.

Monotony and noise came away down in the list, twenty-ninth and thirty-fourth, respectively. Apparently sympathy is often wasted on workers whose jobs are monotonous. Jobs that to a visitor look terribly monotonous soon become automatic to the worker. Only 600 commented on monotony and three-fourths of these were, "My job is not monotonous," or something like that. Only 104 had anything to say, either good or bad, about noise.

Mr. Putnam believes a lot more digging will be necessary to get at the real meaning of and motives behind these thousands of comments.

Business Week - 1-21-31

EXCERPT FROM AN ARTICLE ON
"WHAT THE SCIENTISTS ARE DOING IN PERSONNEL RESEARCH"

by
Albert Edward Wiggam, AUTHOR

Certainly a dramatist would find inspiring material in the experiments carried on by Pennock and Putnam in the plant of the Western Electric Company at Hawthorne, Chicago. As I have mentioned, when your old type employer thinks of increasing the happiness of his workers his first thought is higher wages or more pleasure excursions. His second thought is better ventilation, better lighting, rest pauses, shorter hours, sanitary toilets, handy restaurants for hot lunches and the like. Putnam and Pennock investigated the weight of such factors upon the worker's happiness and effectiveness but found one single factor that out-weighed them all, namely, the character of the supervision, which took in not only the personal attitude and ability of the boss, but also the employees' freedom of expressing opinions about the work and many other factors, largely emotional. They found the improvement in the mental attitude and the resultant increase in output of the workers was due more to their relative freedom from traditional exacting supervisory practices than to improved physical working conditions. As these students express it in substance, these observations suggest that any plan for improving the attitude of employees should begin with a consideration of their likes and dislikes. As a practical method for doing this and making these likes and dislikes effective factors in the total work situation, three methods have been tried at Hawthorne for obtaining, applying and analyzing the worker's personal feelings, beliefs, irritations, interests and the like.

These three methods are:

- (1) Giving the employee opportunity to talk freely and anonymously about his work or his boss or his home situation or wages or whatnot.
- (2) Submitting some of these anonymous interviews to the supervisors as a basis for their re-education.
- (3) Analyzing and classifying all such comments as a basis for future plant improvement and research study.

I visited this work personally and came away with the impression that it was one of the happiest and most fruitful studies going on in industry. Professor Elton Mayo in a notable paper last year before this Federation pointed out the value of such researches in the work that he and a number of others have under way for improving the understanding of conditions affecting employee satisfactions.

From "The Personnel Journal".
No. 5, February, 1931.

KMH

THE UNIVERSITY OF OKLAHOMA

NORMAN, OKLAHOMA

February 12, 1931.

Mr. Porter Martin,
Western Electric Company,
Hawthorne Station,
Chicago, Ill.

Dear Mr. Porter:

Your letter of February 9 will prove to be of great help to me in developing our work here. You have made several important suggestions which I feel can be incorporated in our procedure. Thank you, too, for the suggestions as to certain individuals to whom I may write. I will get in touch with them as soon as possible.

If you have additional printed or mimeographed material which is put out by the Company from time to time in regard to its interviewing work, or its industrial research program I will count it a great favor if you will forward copies to me at your convenience. The material which you have sent under separate cover is especially fine. I am indebted to you very greatly.

With best personal good wishes to you and to your success in the work, I am

Sincerely yours,

J. F. Findlay,
Dean of Men.

JFF/bs/SV

THE BELL TELEPHONE COMPANY OF PENNSYLVANIA
416 Seventh Avenue
Pittsburgh, Pa.

February 19, 1931.

Mr. M. L. Putnam,
Chief of the Industrial Research Division,
The Western Electric Company,
Chicago, Ill.

Dear Mr. Putnam:

Just a line to again express my appreciation
and that of the Personnel Association for your kindness in
coming here to speak.

Was talking yesterday to Mr. Marshall, Vice
President of the Westinghouse Electric and Manufacturing Company,
who was at the meeting, and he was very much impressed with what
you are doing. Incidentally, I have loaned both copies which I
had of the pamphlet published by the Western Electric Company on
the subject of your research.

I trust that your return trip was pleasant
and hope that we may have the pleasure of entertaining you again
before long in Pittsburgh.

Sincerely yours,

(signed) W. M. Dickson.
Gen'l. Plant Employment Manager.

Personnel Service

THE SIOUX CITY TEACHERS'
and
COMMERICAL AGENCY

Sioux City, Iowa

Western Electric Company
Chicago, Illinois

In the October, '30 North American Review was found an article by Mary D. Winn stating that after two and one-half years of observation, the output of workers reached its maximum when they had a supervisor who acted as "listener", by whom they were encouraged to discuss their little troubles and pour out their confidences.

I wish I might be advised: Did the workers know that this supervisor was supposed to be acting in this capacity; Were the workers women and was the supervisor also a woman; was she simply a coworker, or a bonified supervisor; Has this ever been tried by your company or others that you know, with men? This may seem inquisitive but it is not, really. I am a firm believer in the "confession" or "consultation" plan of handling help contentedly, as it were. Much assumed trouble is simply assumed, or imaginary, hency, is mental.

I shall be very grateful to you for any information you can give us along this line such as your results show.

Very truly yours,

(signed) M. REECE EDWARDS.

2/21/31.

DP

INDUSTRIAL PSYCHOLOGY IN THE UNITED STATES:
AN APPRAISAL

My second illustration is an experiment which has been in progress for the past two years in a manufacturing plant, to determine the factors which influence variations of output¹). Nearly every alteration made, such as introduction of rest periods, change in basis of payment, etc., was followed by a rise in output. Here again, the factor which nearly swamped all the others was apparently the response of these girls to the keen interest which the executives and supervisors showed in them and the work they were doing. In any event, the management, as a consequence, is now taking steps to train the supervisors throughout this vast plant in a way to give them all a fresh personal interest in the individual workers they are overseeing¹). Evidently industrial psychology and industrial management in America are together re-discovering the individual and recognizing the importance of the whole man in his personal relations as well as in his relations to his machine and to his physical environment²).

Taken from the
Annals of Business Economics and
Science of Labour (Germany Vol.111 No.4)
By Walter Van Dyke Bingham,
Personnel Research Federation,
New York.

1) This investigation in the Hawthorne Works of the Western Electric Company was described at the Conference of the Personnel Research Federation, November 15; cf. G.A. Pennock, "Industrial Research at Hawthorne." Personnel Journal, Vol. 8, February 1930.

1) M.L. Putnam, "Improving Employee Relations: A Plan Developed on the Basis of Data Obtained from Employees", Personnel Journal, Vol.8, February 1930.

2) John Dewey, "Psychology and Work." An address before the Personnel Research Federation. Personnel Journal, Vol.8, February 1930.

SV

COPY

Harper & Brothers
Publishers
New York

February 24, 1931.

MR. M. L. PUTNAM,
Personnel Department,
Western Electric Company,
Chicago, Ill.

Dear Mr. Putnam:

I would like to raise a question with you for your consideration in relation to the studies you are carrying on with your employees.

As you know there is a great deal of interest today in the training of supervisors and I am wondering if it would not be possible to develop a noteworthy book for use in foremen's classes and executive groups, growing out of your experience with your supervisors' conference, based on your employee interviews.

This thought may not have occurred to you and I do not mean to imply that such a book could be written in a minute, but I certainly hope that the idea may have your serious consideration.

I would be glad to go into further detail upon hearing from you.

Cordially yours,

(Signed) ORDWAY TEAD

Editor of Business Books

LOUISVILLE TEXTILES, INCORPORATED

Louisville, Kentucky

March 6, 1931.

Western Electric Co.,
Hawthorne Station,
Chicago, Ill.

Gentlemen: Att: Mr. W.L. Putnam, Chief Ind. Research Div.

Upon my return from a visit to California, I find your letter of February 21st, and also the copy of the papers which you have been good enough to send, not only for our information but for that of Mr. C.C. Gusley, Secy of Associated Industries of Kentucky.

We feel sure that these papers, even though they are not as of the present date, will be found of very genuine and real interest, and we thank you for them. We shall be very pleased to have further information from you along these lines as your work progresses. It is highly constructive. It is worthy of a prominent place in the whole scheme of industrial operations and in the prosecution of your work. We are convinced that you are engaged in an activity sure to result in real usefulness to the employer and of high constructive value and benefit to the employee.

Very truly yours,

(signed) Philip S. Tulley
President.

DO NOT DISCLOSE IDENTITIES

March 18, 1931.

Mr. M. H. Howarth,
Supervisory Training Dept.,
Western Electric Co., Inc.,
Hawthorne Station,
Chicago, Illinois.

Subject: Foreman Training Address by Mr. G. A. Holmes

Dear Sir:

A week ago today, Mr. Holmes delivered his talk on conference training work before the local chapter of the National Metal Trades Association.

The opinions of Mr. Holmes and his talk as heard after the meeting and since, are of such high calibre that they have inspired me to thank you in this way.

We had not realized fully as Mr. Holmes pointed out, the inspiring effect upon society and life outside the factory of molding and directing men's thoughts through conference training in the factory.

The speaker showed us that concentration in the conference upon principles rather than definite problems was more important, the reason being that in understanding the more intangible principles, the tangible problems would be automatically solved.

The extensive store of experience of the Western Electric in conference training problems as tapped at the meeting was also of great aid to us in their application to conference training problems in our own several plants.

Will you, therefore, accept our hearty thanks for your courtesy, and that of your great company in sending Mr. Holmes to us?

Yours very truly,

Walter M. Kenworth

Chairman Program Committee

WMK:VH:SV